



MIAMI BEACH

OFFICE OF THE CITY MANAGER

NO. LTC # 241-2006

LETTER TO COMMISSION

TO: Mayor David Dermer and Members of the City Commission

FROM: Jorge M. Gonzalez, City Manager

DATE: October 12, 2006

SUBJECT: Traffic Calming Program

This letter is to provide you with an update on the City Traffic Calming Program. In order to preserve the safety and livability of our community the Transportation Division, Public Works Department has been developing a Traffic Calming Program to address traffic concerns related to the traffic volume and speeding in local and residential streets. Kittelson & Associates (K&A) transportation and traffic engineering consultant is assisting the City in the development of the program.

The Traffic Calming Program is composed of two related products, as detailed below:

1. Traffic Calming Pilot Study

The traffic calming pilot study analyzed five (5) streets that were affected by traffic volume and speeding, detailed below:

- Prairie Avenue (28th Street to Alton Road)
- North Shore Drive
- W 62nd Street (La Gorce Avenue to Alton Road)
- North Bay Road (Michigan Avenue to 29th Street)
- W 34th Street. (Pine Tree Drive to Alton Road)

Speed and volume studies were conducted along these streets between October 2005 and January 2006. The data collected was subsequently analyzed and revealed that Prairie Avenue (between W 28th Street to W 41st Street), North Bay Road (Michigan Avenue to W 29th Street) and W 34th Street (between Chase Avenue and Pinetree Drive) warranted traffic calming treatment because they reached speed and volume thresholds recommended by K & A for traffic calming in Miami Beach; see tables on step 3 of Attachment A.

Kittelson & Associates recommended that four (4) devices be installed on Prairie Avenue, and two (2) devices be installed on W 34th Street, responding to the high volume observed; they also recommended that three (3) traffic calming devices be installed on North Bay Road in response to the high speeds observed. Their locations are shown in Exhibit A.

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Based on the consultant's recommendations, the City will start a pilot study. The proposed traffic calming device for Prairie Avenue, North Bay Road and W 34th Street is the speed cushion (see Attachment B), similar to speed humps. These devices are one of the most cost-effective means to calm neighborhood streets. Speed cushions have an added feature for accommodating emergency vehicles while still causing general traffic to slow down.

The next steps for the Traffic Calming Pilot Program are as follows:

1. Conduct neighborhood outreach to inform residences on North Bay Road, Prairie Avenue and W34th Street.
2. Install the rubberized speed cushions at the recommended locations along Prairie Avenue, North Bay Road and W34th Street.
3. Conduct a speed and volume study, for each of the streets, six months after the speed cushion installation, to ensure that speeds have been reduced to less than 5 mph over the posted speed limit.

The timeline to execute steps 1 and 2 is estimated to be 120 days.

2. Traffic Calming Manual

The Traffic Calming Manual is a document to be adopted by the City Commission after the traffic calming pilot program is completed and will serve as an approved methodology to address traffic calming issues throughout the City in a consistent and systematic way.

As a guideline to implement traffic calming measures, the Traffic Calming Manual will provide a defined process and procedures to study problematic streets and/or areas within the City of Miami Beach boundaries.

The manual will also provide guidelines for the installation of different traffic calming measures that may be used in a traffic calming project, analyzing the effects on speed and volume as well as preliminary costs. The thresholds for speed and volumes to be eligible for traffic calming measures will be tailored according to Miami Beach characteristics based on the results obtained from implementation of the pilot project.

City staff and/or residents will identify traffic problems in their neighborhoods. The Traffic Calming Manual will then be used as the guide to develop traffic calming solutions. As part of the process the impacted residents will then be involved in the approval of the project for traffic calming solution for the identified traffic problem. Also, since Miami Dade County has the authority and responsibility all traffic engineering in the County and the municipalities, all traffic calming solutions proposed must be approved by Miami Dade County.



RCM/FHB/FAV

**KITTELSON & ASSOCIATES, INC.****TRANSPORTATION PLANNING/TRAFFIC ENGINEERING**

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EXHIBIT A - TECHNICAL MEMORANDUM**City of Miami Beach Traffic Calming – Pilot Program****Date:** September 18th, 2006**Project #:** 7017.0**To:** Maria Echeverry**From:** Thuha Nguyen**cc:** Fernando Vazquez, John Zegeer

The purpose of this memorandum is to document the process of the City of Miami Beach's traffic calming "pilot" program. Some treatments are recommended along the pilot streets, and are also reported in this memo. The following five steps were taken as part of the traffic calming pilot program:

1. Conduct speed and volume studies
2. Review and summarize results
3. Evaluate speed and volume thresholds
4. Develop the proposed traffic calming plans
5. Document the characteristics of the commonly used traffic devices

Each step is described in detail below.

1. Speed and Volume Study

Speed & volume studies were conducted along five selected pilot streets: Prairie Avenue, North Shore Drive, W 62nd Street, North Bay Road, and W 34th Street. The studies were completed by City staff with the *Nu-Metrics Traffic Analyzer* which allows for the collection of both volumes and speeds. Traffic volume and speed were collected for both directions during a 24-hour period of a typical weekday.

2. Result Summary

The speed & volume study results are summarized in the table in the next page. The speed documented is the higher of the 85th percentile speeds collected for the two directions. The 85th percentile speed is one at which 85-percent of all vehicles travel at or below. The posted speed limits are also included in the table.

Table 1: Speed and volume study result summary

Street Name	Date Collected	24-hour volume	85 th - Percentile* V ₈₅	Posted Speed Limit
Prairie Avenue	9/13/05	2,858	37.4	30 mph
North Shore Drive	9/14/05	1,160	33.5	30 mph
W 62nd Street	9/15/05	236	33.2	30 mph
North Bay Road	10/10/05	1,669	36.3	25 mph
34th Street - b/w Prairie & Chase	1/19/06	2,443	32.8	30 mph

3. Traffic Threshold Research and Development

The thresholds used for the initial evaluation are those recommend by the City of Coral Springs's traffic calming manual¹. Speed and volume thresholds are shown in the table below. Any street that ranks 2.5 or higher warrants traffic calming treatment, upon approval of the City's Traffic Engineering Consultant:

Points	Above V ₈₅
0.5	Less than 4.6 mph
1.0	4.6 to 7.5 mph
1.5	7.6 to 10.5 mph
2.0	10.6 to 13.5 mph
2.5	13.6 to 16.5 mph
3.0	More than 16.5 mph

Points	volume 24 hr.
0.5	500-1,100 veh.
1.0	1,101-1,700 veh.
1.5	1,701-2,300 veh.
2.0	More than 2,300 veh

4. Traffic Calming Plan Development

The results were compared with the thresholds recommended in the City of Coral Springs' Traffic Calming Manual and revealed that Prairie Avenue (W 28th Street to W 41st Street), North Bay Road (Michigan Avenue to W 29th Street), and West 34th Street (Prairie Avenue to Chase Avenue) are warranted for traffic calming treatments.

The traffic calming plans shown in the BODR – Neighborhood 8, Packages A & B were reviewed. It was found that the recommended speed tables were not sufficient. Due to the high volume observed along Prairie Avenue and W34th Street and high speeds observed along North Bay Road, it is recommended that four traffic calming devices be installed on Prairie Avenue, two be installed on W34th Street and three traffic calming devices be installed on North Bay Road. These locations were selected based on their proximity to driveways, other traffic control devices (stop sign, signal), utility component (manhole, inlet), nearby intersection, light poles, and other traffic calming devices. The recommended treatment is speed hump or speed cushion. More information on these and other devices are discussed in the next section.

¹ City of Coral Springs Traffic Calming Manual – approved June 2002 (p.6)

The traffic calming plans for Prairie Avenue, W34th Street and North Bay Road are presented on the next pages.

5. Traffic Calming Treatment Comparison





As a part of the pilot study, a research of types, advantages/disadvantages, and costs of the common traffic calming devices were completed. A summary is found below:

	Volume Reductions	Speed Reductions	Noise	Emergency & Service Access	Cost Effectiveness
Road Striping	No change	Yes	No effect	No effect	Low
Speed Humps/Speed Cushions	Possible	Possible	Increase	Some problems	Moderate (\$2-\$5K)
Traffic Circles/ Roundabouts	Unclear	Minor	Minor change	Some constraints	Moderate to High (\$10-\$30K w/o ROW cost)
Chockers/Bump-outs	Rare	Minor	Minor change	No effect	Moderate (\$10-\$20 per approach)
Gateway Treatments	Unlikely	Yes	Possible increase	No effect	Moderate (\$5-\$15K)
Short Medians	No	Yes	No effect	No effect	Moderate (\$5-\$15K)
Raised Crosswalks	No effect	No	No effect	No effect	Moderate (\$4K)
Textured Pavements	Unlikely	Yes	Minor change	No effect	Moderate to High (varies)

The proposed traffic calming device for the three streets are speed cushions. Similar to speed humps, these devices are one of the most cost-effective means to calm neighborhood streets. Speed cushions have added feature of accommodating emergency vehicles while still cause general traffic to slow down. The Police and Fire Departments should be contacted so that the speed cushions installed are suitable based on their specific vehicles' axle width.



Legend

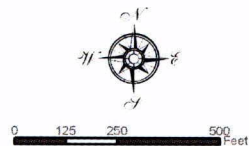
-  stop
-  signal
-  treatment
-  Prairie Avenue

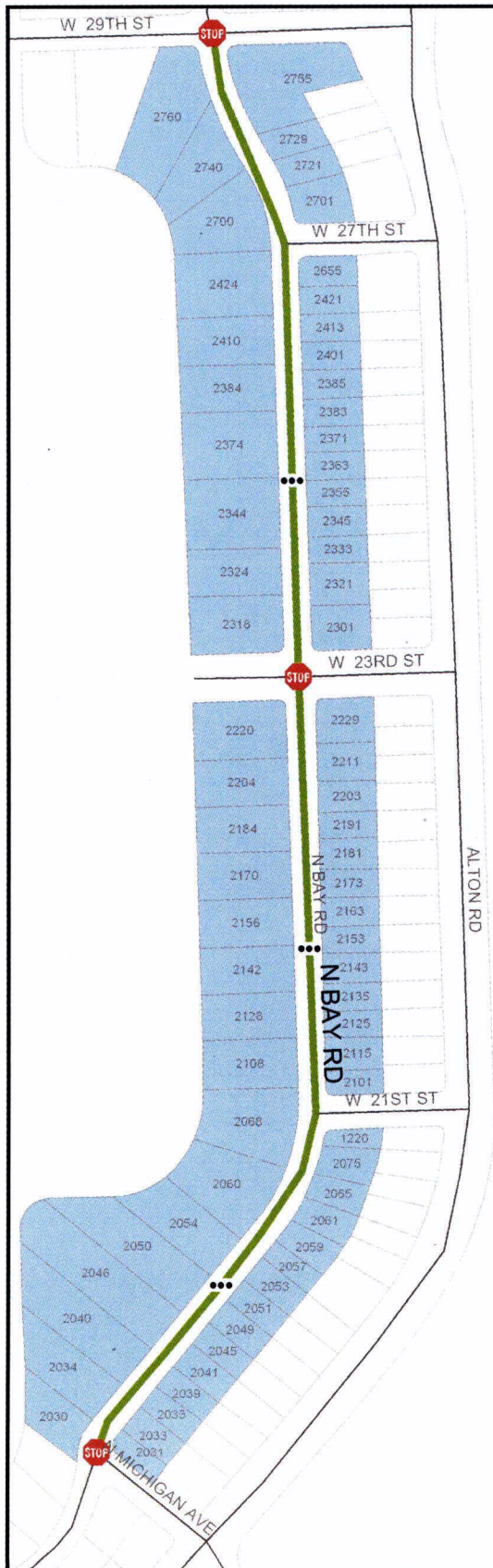
Southern edge should align
with 3748 driveway

Centered on 3467 and
3456 driveways

Centered on light located
between 3114 and 3100
residences

Centered among the four
residences: 2924, 2900,
2925, and 2915





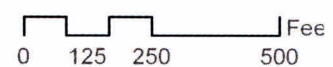
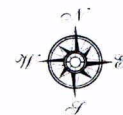
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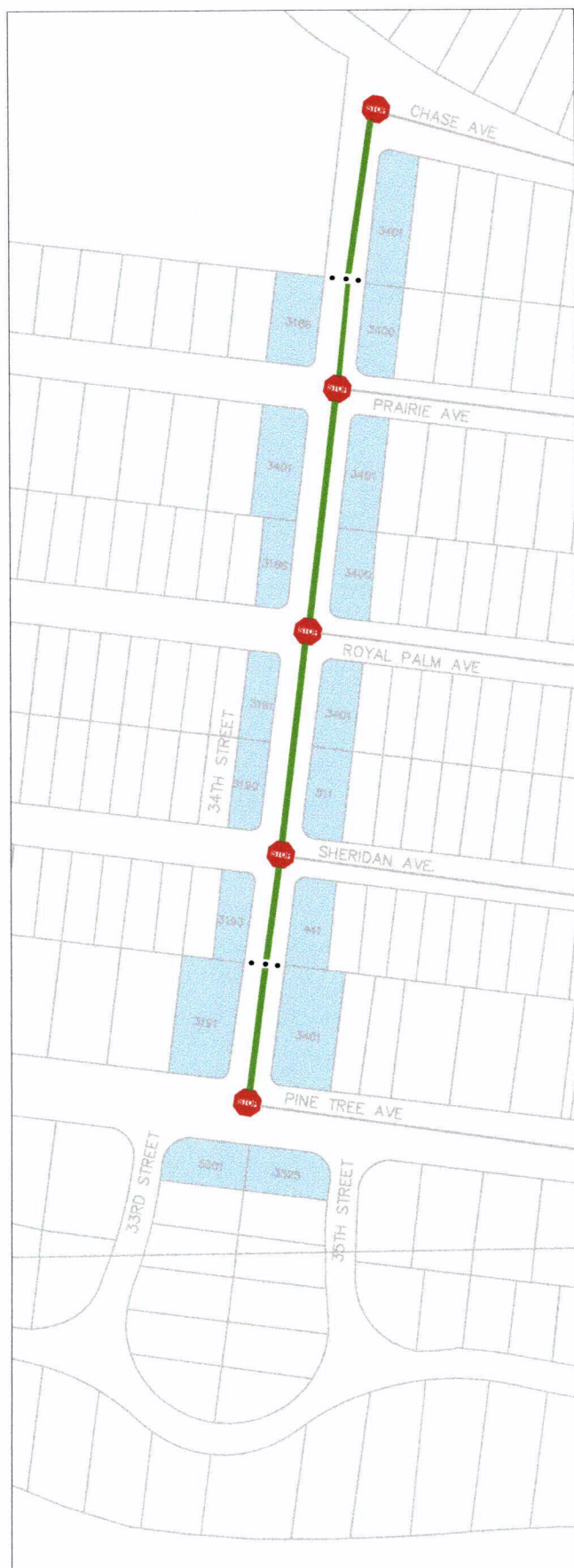
-  stop
-  treatment
-  North Bay Road

Centered on 2383 and
2371 driveways

Northern edge should align
with 2156 driveway

Centered on 2051 circular
driveway





Legend

Centered on 3401 and 3400

Centered on 3401 and 3400



Recommendations

The following recommendations are made regarding the traffic calming program in the City of Miami Beach:

- Submit the traffic calming plans to Miami-Dade County for approval
- Conduct neighborhood meetings for affected residences on North Bay Road and Prairie Avenue
- Upon approval from both the County and the residents, install the rubberized speed cushions at the recommended nine locations along Prairie Avenue, W34th Street and North Bay Road.
- Conduct a speed and volume study, for each of the two streets, six to eight months after the installation, to ensure that the speeds have been reduced to less than 5 mph over the posted speed limit.

EXHIBIT "B" - Speed Cushion

